ABSTRACT

~~An~~ A pirani absolute pressure sensor for sensing absolute pressure in a load lock in a range from 100 to 10^{-4} torr and a differential pressure sensor for sensing a pressure difference between ambient atmospheric pressure and pressure in [[a]] the load lock chamber are combined together ~~on~~ in a module with a manifold[[,]] and ~~with~~ common circuit components to provide a pressure transducer ~~apparatus~~ that is capable of producing not only analog output for absolute pressure measurements, but also control signals ~~over a wide pressure range~~ at settable absolute and differential pressure values for opening interior and exterior doors of a load lock used to shuttle wafers and other devices into and out of a vacuum processing chamber. The transducer can also produce signals to control transition from slow to fast vacuum ~~pump-down~~ pumping of [[a]] the load lock chamber ~~pressure at a predetermined~~ a settable threshold pressure ~~set point~~.